

## AIR QUALITY PERMIT

Issued To: Williston Basin Interstate  
Pipeline Company  
Vida Compressor Station  
P.O. Box 131  
Glendive, MT 59330

Permit: # 2814-02  
Administrative Amendment Received: 09/16/03  
Department Decision on Administrative  
Amendment: 10/09/03  
Permit Final: 10/25/03  
AFS: # 055-0001

An air quality permit, with conditions, is hereby granted to Williston Basin Interstate Pipeline Company – Vida Compressor Station (WBI), pursuant to Sections 75-2-204 and 211 of the Montana Code Annotated (MCA), as amended, and the Administrative Rules of Montana (ARM) 17.8.740, *et seq.*, as amended, for the following:

### SECTION I: Permitted Facilities

#### A. Plant Location

WBI is located near Vida, Montana. The legal description of the site location is the N½ of the NE¼ of Section 27, Township 25 North, Range 41 East, McCone County, Montana. A complete list of the permitted equipment can be found in the Section I.A of the permit analysis.

#### B. Current Permit Action

On September 16, 2003, the Department of Environmental Quality (Department) received a letter from WBI requesting to increase the carbon monoxide (CO) limit for each of the four Ajax DPC-600LE natural gas fired compressor engines from 1.59 pounds per hour (lb/hr), to 2.44 lb/hr. The CO emission limit of 1.59 lb/hr was proposed in error by WBI as part of permit action #2814-01. Because the potential emission increase of CO emissions is less than 15 tons/year and because the existing limit was not established through Best Available Control Technology (BACT) the Department determined that the onetime increase in the CO emission limit is excluded from requiring a permit as described in ARM 17.8.745(1)(d). The emission limits in Section II.A.1. of Permit #2814-01 were referenced as ARM 17.8.752 in error, permit action #2814-02 corrects the reference to ARM 17.8.749. The current de minimis action changes the CO limit for each of the Ajax DPC-600LE natural gas-fired compressor engines from 1.59 lb/hr to 2.44 lb/hr, changes the reference for Section II.A.1. of the permit, and updates the permit to reflect current permit language and rule references used by the Department.

### SECTION II. Conditions and Limitations

#### A. Emission Limitations

1. Emissions from each of the 600-horsepower (hp) Ajax DPC-600LE natural gas fired compressor engines shall be controlled with the use of lean-burn engine technology. Emissions from each unit shall not exceed the following (ARM 17.8.749):

NO <sub>x</sub>	8.60 lb/hr
CO	2.44 lb/hr
VOC	1.59 lb/hr

2. WBI shall not cause or authorize emissions to be discharged into the outdoor atmosphere from any sources installed after November 23, 1968, that exhibit an opacity of 20% or greater averaged over 6-consecutive minutes (ARM 17.8.304).
3. WBI shall not cause or authorize the use of any street, road, or parking lot without taking reasonable precautions to control emissions of airborne particulate matter (ARM 17.8.308).
4. WBI shall treat all unpaved portions of the haul roads, access roads, parking lots, or general plant area with water and/or chemical dust suppressant as necessary to maintain compliance with the reasonable precautions limitation in Section II.A.3 (ARM 17.8.749).

#### B. Testing Requirements

1. WBI shall test each Ajax DPC 600LE for nitrogen oxides (NO<sub>x</sub>) and CO emissions, concurrently, and demonstrate compliance with the NO<sub>x</sub> and CO emission limits contained in Section II.A.1. Testing shall be conducted based on WBI's Title V operating permit or according to another testing/monitoring schedule as may be approved by the Department (ARM 17.8.105 and 17.8.749).
2. All compliance source tests shall conform to the requirements of the Montana Source Test Protocol and Procedures Manual (ARM 17.8.106).
3. The Department may require further testing (ARM 17.8.105).

#### C. Operational Reporting Requirements

1. WBI shall supply the Department with annual production information for all emission points, as required by the Department in the annual emission inventory request. The request will include, but is not limited to, all sources of emissions identified in the emission inventory contained in the permit analysis.

Production information shall be gathered on a calendar-year basis and submitted to the Department by the date required in the emission inventory request. Information shall be in the units required by the Department. This information may be used to calculate operating fees, based on actual emissions from the facility, and/or to verify compliance with permit limitations (ARM 17.8.505).

2. WBI shall notify the Department of any construction or improvement project conducted pursuant to ARM 17.8.745(1), that would include a change in control equipment, stack height, stack diameter, stack flow, stack gas temperature, source location or fuel specifications, or would result in an increase in source capacity above its permitted operation or the addition of a new emission unit. The notice must be submitted to the Department, in writing, 10 days prior to start up or use of the proposed de minimis change, or as soon as reasonably practicable in the event of an unanticipated circumstance causing the de minimis change, and must include the information requested in ARM 17.8.745(1)(d) (ARM 17.8.745).
3. All records compiled in accordance with this permit must be maintained by WBI as a permanent business record for at least 5 years following the date of the measurement, must be available at the plant site for inspection by the Department, and must be submitted to the Department upon request (ARM 17.8.749).

### SECTION III: General Conditions

- A. Inspection – WBI shall allow the Department’s representatives access to the source at all reasonable times for the purpose of making inspections or surveys, collecting samples, obtaining data, auditing any monitoring equipment (CEMS, CERMS) or observing any monitoring or testing, and otherwise conducting all necessary functions related to this permit.
- B. Waiver – The permit and the terms, conditions, and matters stated herein shall be deemed accepted if WBI fails to appeal as indicated below.
- C. Compliance with Statutes and Regulations – Nothing in this permit shall be construed as relieving WBI of the responsibility for complying with any applicable federal or Montana statute, rule, or standard, except as specifically provided in ARM 17.8.740, *et seq.* (ARM 17.8.756).
- D. Enforcement – Violations of limitations, conditions and requirements contained herein may constitute grounds for permit revocation, penalties or other enforcement action as specified in Section 75-2-401, *et seq.*, MCA.
- E. Appeals – Any person or persons jointly or severally adversely affected by the Department’s decision may request, within 15 days after the Department renders it’s decision, upon affidavit setting forth the grounds therefore, a hearing before the Board of Environmental Review (Board). A hearing shall be held under the provisions of the Montana Administrative Procedures Act. The Department’s decision on the application is not final unless 15 days have elapsed and there is no request for a hearing under this section. The filing of a request for a hearing postpones the effective date of the Department’s decision until conclusion of the hearing and issuance of a final decision by the Board.
- F. Permit Inspection – As required by ARM 17.8.755, Inspection of Permit, a copy of the air quality permit shall be made available for inspection by the Department at the location of the source.
- G. Permit Fee – Pursuant to Section 75-2-220, MCA, as amended by the 1991 Legislature, failure to pay the annual operation fee by WBI may be grounds for revocation of this permit, as required by that section and rules adopted thereunder by the Board.

Permit Analysis  
Williston Basin Interstate Pipeline Company  
Vida Compressor Station  
Permit #2814-02

I. Introduction/Process Description

A. Permitted Equipment

Williston Basin Interstate Pipeline Company – Vida Compressor Station (WBI) natural gas compressor facility consists of the following units:

1. (4) Ajax DPC 600LE natural gas fired compressor engines (600-horsepower (hp))
2. (1) 1.355-million British thermal units per hour (MMBtu/hr) Eclipse Boiler
3. (1) 30,000 Btu/hr 1978 AO Smith Water Heater (Model #PGC-30850)
4. (1) 35,000 Btu/hr 1978 Warm Morning Office Heater (Model #WFC-35A)
5. (1) 130,000 Btu/hr 1978 Armstrong Shop Heater (Model #G31-130A)

B. Source Description

WBI owns and operates a natural gas compressor station located in the N½ of the NE¼ of Section 27, Township 25 North, Range 41 East, McCone County, Montana. The facility is near Vida, Montana and is known as the Vida Compressor Station.

The Vida Compressor Station serves as a natural gas pipeline booster station. This facility enables WBI to transport additional volumes of gas purchased in the Bowdoin Field near Saco, Montana to storage at the Cabin Creek, Montana storage area and to further sales destinations.

C. Permit History

The Vida Compressor Station was constructed by WBI's predecessor, the Montana Dakota Utilities Co. (MDU), as one planned project, but in two construction phases, between April 1978 and April 1979. MDU filed docket #CP75-154 with the Federal Energy Regulatory Commission (FERC) on November 20, 1974, which requested authority to construct and operate a natural gas compressor station for the transportation of natural gas from the Bowdoin Field near Saco to storage at the Cabin Creek, Montana storage area and to further sales destinations.

WBI was issued a FERC certificate on May 11, 1977, to construct and operate those facilities identified in docket #CP75-154. Originally, 3 – 1200-hp Solar Saturn compressor engines were proposed to be installed over a two-year period. Construction was to begin in 1976 near Richey, Montana, but the FERC certificate was not issued until May 11, 1977, and equipment contracts had not been initiated beforehand. For this reason the project was delayed and during this time the construction plans were changed.

During the delay, WBI determined that it could perform the required services with three Ajax DPC-540 compressors and one Ajax DPC-360 compressor, for a total of 1980-horsepower (hp). The proposed station was relocated from near Richey, Montana to Vida, Montana and the Vida station was planned to be built with the first two compressor engines being installed in 1978. In 1976, Ajax was marketing the DPC-540 compressor with a nameplate rating of 540-hp. Subsequent to 1976, and before WBI's order was placed, Ajax modified and updated the DPC-540 and it became the DPC-600 reciprocating internal combustion engines (RICE) with a nameplate rating of 600-hp. The DPC-540 was no longer offered or available. Due to this reason, two 600-hp Ajax DPC-600 RICE were ordered and installed as units #1 and #2, instead of the originally planned compressor engines.

The purchase order for units #1 and #2 was issued on September 13, 1977, with a no charge cancellation date of January 15, 1978. The actual on-site construction of the Vida station began on April 10, 1978, with the pouring of the concrete pads for all four compressor engines. The erection of the compressor building, installation of units #1 and #2, and addition of the other associated equipment followed shortly thereafter. Work on phase one of this project was completed by October 27, 1978.

In the second construction phase the following year, two additional compressor engines were to be installed. In addition to the installation of the latter two engines, other construction activities on the mainline and at existing stations had to be completed to allow WBI to increase capacity on the mainline.

Installing all four compressor engines in 1978 would have been unproductive because the pipeline capacity was limited to the operating pressure of the existing pipeline and only two engines were required to achieve the potential pipeline capacity in 1978. Only after additional construction work upgrading certain pipeline segments and installing two additional compressor engines at Saco, were Vida compressor engines #3 and #4 finally required. Due to the manufacturer's modification/upgrading of its 540-hp compressor engines, two 600-hp Ajax DPC-600 RICE were ordered and installed as units #3 and #4, instead of the originally planned compressor engines.

The purchase order for units #3 and #4 was issued on March 31, 1978, with no capital expenditure until April 1979. The actual installation of units #3 and #4 was on April 20, 1979, and the entire project was completed by October 8, 1979. The completed Vida compressor station had estimated potential nitrogen oxides (NO<sub>x</sub>) and carbon monoxide (CO) emissions of 300 and 70 tons per year, respectively. The completed Vida compressor station provided a capacity of 14,000 Mcf per day in the summer and 17,000 Mcf per day in the winter.

In May 1993, WBI had an emission source test conducted to determine the NO<sub>x</sub> and CO emissions from the unit #2 compressor engine (Ajax DPC-600 RICE, Serial #75553). The results of the source test, based on averaging the 3 tests, were 11.87 pounds per hour (lb/hr) (10.323 gram/hp-hr) for NO<sub>x</sub> and 2.74 lb/hr (2.382 gram/hp-hr) for CO.

On June 21, 1994, WBI was issued air quality Permit **#2814-00** for the operation of the Vida Compressor Station and associated equipment.

On February 13, 2003, the Department of Environmental Quality (Department) received a letter from WBI. WBI requested a modification to Permit #2814-00 for the addition of low emission (LE) packages to the four Ajax DPC-600 natural gas fired RICE.

The permit action added LE packages to the four Ajax DPC-600 Engines under the provisions of ARM 17.8.745 (1). In addition, Permit #2814-01 was updated to reflect the new emission factors for the Ajax DPC-600LE compressor engines and current Department permit format and permit language. Permit **#2814-01** replaced Permit #2814-00.

#### D. Current Permit Action

On September 16, 2003, the Department received a letter from WBI requesting to increase the carbon monoxide (CO) limit for each of the four Ajax DPC-600LE natural gas fired compressor engines from 1.59 pounds per hour (lb/hr), to 2.44 lb/hr. The CO emission limit of 1.59 lb/hr was proposed in error by WBI as part of permit action #2814-01. Because the potential emission increase of CO emissions is less than 15 tons/year and because the existing limit was not established through Best Available Control Technology (BACT) the Department determined that the onetime increase in the CO emission limit is excluded from requiring a

permit as described in Administrative Rules of Montana (ARM) 17.8.745(1)(d). The emission limits in Section II.A.1. of Permit #2814-01 were referenced as ARM 17.8.752 in error, permit action #2814-02 corrects the reference to ARM 17.8.749. The current de minimis action changes the CO limit for each of the Ajax DPC-600LE natural gas-fired compressor engines from 1.59 lb/hr to 2.44 lb/hr, changes the reference for Section II.A.1. of the permit, and updates the permit to reflect current permit language and rule references used by the Department. Permit **#2814-02** replaces Permit #2814-01.

E. Additional Information

Additional information, such as applicable rules and regulations, BACT/Reasonably Available Control Technology (RACT) determinations, air quality impacts, and environmental assessments, is included in the analysis associated with each change to the permit.

II. Applicable Rules and Regulations

The following are partial explanations of some applicable rules and regulations that apply to the facility. The complete rules are stated in the ARM and are available, upon request, from the Department. Upon request, the Department will provide references for location of complete copies of all applicable rules and regulations or copies where appropriate.

A. ARM 17.8, Subchapter 1 – General Provisions, including but not limited to:

1. ARM 17.8.101 Definitions. This rule includes a list of applicable definitions used in this chapter, unless indicated otherwise in a specific subchapter.
2. ARM 17.8.105 Testing Requirements. Any person or persons responsible for the emission of any air contaminant into the outdoor atmosphere shall, upon written request of the Department, provide the facilities and necessary equipment (including instruments and sensing devices) and shall conduct tests, emission or ambient, for such periods of time as may be necessary using methods approved by the Department.
3. ARM 17.8.106 Source Testing Protocol. The requirements of this rule apply to any emission source testing conducted by the Department, any source or other entity as required by any rule in this chapter, or any permit or order issued pursuant to this chapter, or the provisions of the Clean Air Act of Montana, 75-2-101, *et seq.*, Montana Code Annotated (MCA).

WBI shall comply with the requirements contained in the Montana Source Test Protocol and Procedures Manual, including, but not limited, using the proper test methods and supplying the required reports. A copy of the Montana Source Test Protocol and Procedures Manual is available from the Department upon request.

4. ARM 17.8.110 Malfunctions. (2) The Department must be notified promptly by telephone whenever a malfunction occurs that can be expected to create emissions in excess of any applicable emission limitation or to continue for a period greater than 4 hours.
5. ARM 17.8.111 Circumvention. (1) No person shall cause or permit the installation or use of any device or any means that, without resulting in reduction of the total amount of air contaminant emitted, conceals or dilutes an emission of air contaminant that would otherwise violate an air pollution control regulation. (2) No equipment that may produce emissions shall be operated or maintained in such a manner as to create a public nuisance.

B. ARM 17.8, Subchapter 2 – Ambient Air Quality, including, but not limited to the following:

1. ARM 17.8.204 Ambient Air Monitoring
2. ARM 17.8.210 Ambient Air Quality Standards for Sulfur Dioxide
3. ARM 17.8.211 Ambient Air Quality Standards for Nitrogen Dioxide
4. ARM 17.8.212 Ambient Air Quality Standards for Carbon Monoxide
5. ARM 17.8.213 Ambient Air Quality Standard for Ozone
6. ARM 17.8.214 Ambient Air Quality Standard for Hydrogen Sulfide
7. ARM 17.8.220 Ambient Air Quality Standard for Settled Particulate Matter
8. ARM 17.8.221 Ambient Air Quality Standard for Visibility
9. ARM 17.8.222 Ambient Air Quality Standard for Lead
10. ARM 17.8.223 Ambient Air Quality Standard for PM<sub>10</sub>

WBI must maintain compliance with the applicable ambient air quality standards.

C. ARM 17.8, Subchapter 3 – Emission Standards, including, but not limited to:

1. ARM 17.8.304 Visible Air Contaminants. This rule requires that no person may cause or authorize emissions to be discharged into the outdoor atmosphere from any source installed after November 23, 1968, that exhibit an opacity of less than 20% or greater averaged over 6 consecutive minutes.
2. ARM 17.8.308 Particulate Matter, Airborne. (1) This rule requires an opacity limitation of 20% for all fugitive emission sources and that reasonable precautions be taken to control emissions of airborne particulate matter. (2) Under this rule, WBI shall not cause or authorize the use of any street, road, or parking lot without taking reasonable precautions to control emissions of airborne particulate matter.
3. ARM 17.8.309 Particulate Matter, Fuel Burning Equipment. This rule requires that no person shall cause, allow or permit to be discharged into the atmosphere particulate matter caused by the combustion of fuel in excess of the amount determined by this rule.
4. ARM 17.8.310 Particulate Matter, Industrial Process. This rule requires that no person shall cause, allow, or permit to be discharged into the atmosphere particulate matter in excess of the amount set forth in this rule.
5. ARM 17.8.322 Sulfur Oxide Emissions--Sulfur in Fuel. This rule requires that no person shall burn liquid, solid, or gaseous fuel in excess of the amount set forth in this rule.

ARM 17.8.340 Standard of Performance for New Stationary Sources and Emission Guidelines for Existing Sources. This rule incorporates, by reference, 40 CFR 60, Standards of Performance for New Stationary Sources (NSPS). This facility is not an NSPS affected source because it does not meet the definition of a natural gas processing plant as defined in 40 CFR Part 60, Subpart KKK, Standards of Performance for Equipment Leaks of volatile organic compounds (VOC) from Onshore Natural Gas Processing Plants.

7. ARM 17.8.342 Emission Standards for Hazardous Air Pollutants for Source Categories. The source, as defined and applied in 40 CFR 63, shall comply with the requirements of 40 CFR 63, as listed below:

40 CFR 63, Subpart HH - National Emission Standards for Hazardous Air Pollutants From Oil and Natural Gas Production Facilities. Owners or operators of oil and natural gas production facilities, as defined and applied in 40 CFR Part 63, shall comply with the applicable provisions of 40 CFR Part 63, Subpart HH. In order for a natural gas production

facility to be subject to 40 CFR Part 63, Subpart HH requirements, certain criteria must be met. First, the facility must be a major source of Hazardous Air Pollutants (HAP) as determined according to paragraphs (a)(1)(i) through (a)(1)(iii) of 40 CFR 63, Subpart HH. Second, a facility that is determined to be major for HAPs must also either process, upgrade, or store hydrocarbon liquids prior to the point of custody transfer, or process, upgrade, or store natural gas prior to the point at which natural gas enters the natural gas transmission and storage source category or is delivered to a final end user. Third, the facility must also contain an affected source as specified in paragraphs (b)(1) through (b)(4) of 40 CFR Part 63, Subpart HH. Finally, if the first three criteria are met, and the exemptions contained in paragraphs (e)(1) and (e)(2) of 40 CFR Part 63, Subpart HH do not apply, the facility is subject to the applicable provisions of 40 CFR Part 63, Subpart HH. Because the Vida facility is not a major source of HAPs, WBI is not subject to the provisions of 40 CFR Part 63, Subpart HH.

40 CFR 63, Subpart HHH National Emission Standards for Hazardous Air Pollutants From Natural Gas Transmission and Storage Facilities. Owners or operators of natural gas transmission or storage facilities, as defined and applied in 40 CFR Part 63, shall comply with the standards and provisions of 40 CFR Part 63, Subpart HHH. In order for a natural gas transmission and storage facility to be subject to 40 CFR Part 63, Subpart HHH requirements, certain criteria must be met. First, the facility must transport or store natural gas prior to the gas entering the pipeline to a local distribution company or to a final end user if there is no local distribution company. In addition, the facility must be a major source of HAPs as determined using the maximum natural gas throughput as calculated in either paragraphs (a)(1) and (a)(2) or paragraphs (a)(2) and (a)(3) of 40 CFR Part 63, Subpart HHH. Second, a facility must contain an affected source (glycol dehydration unit) as defined in paragraph (b) of 40 CFR Part 63, Subpart HHH. Finally, if the first two criteria are met, and the exemptions contained in paragraph (f) of 40 CFR Part 63, Subpart HHH, do not apply, the facility is subject to the applicable provisions of 40 CFR Part 63, Subpart HHH. Because the Vida facility is not a major source of HAPs, WBI is not subject to the provisions of 40 CFR 63, Subpart HHH.

- D. ARM 17.8, Subchapter 5 – Air Quality Permit Application, Operation, and Open Burning Fees, including, but not limited to:
1. ARM 17.8.504 Air Quality Permit Application Fees. This rule requires that an applicant submit an air quality permit application fee concurrent with the submittal of an air quality permit application. A permit application is incomplete until the proper application fee is paid to the Department. A permit application and fee were not required because the current permit action was considered administrative.
  2. ARM 17.8.505 When Permit Required--Exclusions. An annual air quality operation fee must, as a condition of continued operation, be submitted to the Department by each source of air contaminants holding an air quality permit (excluding an open burning permit) issued by the Department. The air quality operation fee is based on the actual or estimated actual amount of air pollutants emitted during the previous calendar year.

An air quality operation fee is separate and distinct from an air quality permit application fee. The annual assessment and collection of the air quality operation fee, described above, shall take place on a calendar-year basis. The Department may insert into any final permit issued after the effective date of these rules, such conditions as may be necessary to require the payment of an air quality operation fee on a calendar-year basis, including provisions that prorate the required fee amount.



- E. ARM 17.8, Subchapter 7 – Permit, Construction, and Operation of Air Contaminant Sources, including, but not limited to:
1. ARM 17.8.740 Definitions. This rule is a list of applicable definitions used in this chapter, unless indicated otherwise in a specific subchapter.
  2. ARM 17.8.743 Montana Air Quality Permits--When Required. This rule requires a person to obtain an air quality permit or permit alteration to construct, alter or use any air contaminant sources that have the Potential to Emit (PTE) greater than 25 tons per year of any pollutant. WBI has the potential to emit more than 25 tons per year of NO<sub>x</sub> and CO; therefore, an air quality permit is required.
  3. ARM 17.8.744 Montana Air Quality Permits--General Exclusions. This rule identifies the activities that are not subject to the Montana Air Quality Permit program.
  4. ARM 17.8.745 Montana Air Quality Permits—Exclusion for De Minimis Changes. This rule identifies the de minimis changes at permitted facilities that do not require a permit under the Montana Air Quality Permit Program.
  5. ARM 17.8.748 New or Modified Emitting Units--Permit Application Requirements. (1) This rule requires that a permit application be submitted prior to installation, alteration, or use of a source. WBI was not required to submit a permit application because the current permit action is considered an administrative amendment.
  6. ARM 17.8.749 Conditions for Issuance or Denial of Permit. This rule requires that the permits issued by the Department must authorize the construction and operation of the facility or emitting unit subject to the conditions in the permit and the requirements of this subchapter. This rule also requires that the permit must contain any conditions necessary to assure compliance with the Federal Clean Air Act (FCAA), the Clean Air Act of Montana, and rules adopted under those acts.
  7. ARM 17.8.752 Emission Control Requirements. This rule requires a source to install the maximum air pollution control capability that is technically practicable and economically feasible, except that BACT shall be utilized. A BACT determination was not required for the current permit action because the current permit action is considered an administrative amendment.
  8. ARM 17.8.755 Inspection of Permit. This rule requires that air quality permits shall be made available for inspection by the Department at the location of the source.
  9. ARM 17.8.756 Compliance with Other Requirements. This rule states that nothing in the permit shall be construed as relieving WBI of the responsibility for complying with any applicable federal or Montana statute, rule, or standard, except as specifically provided in ARM 17.8.740, *et seq.*
  10. ARM 17.8.759 Review of Permit Applications. This rule describes the Department's responsibilities for processing permit applications and making permit decisions on those permit applications that do not require the preparation of an environmental impact statement.
  11. ARM 17.8.762 Duration of Permit. An air quality permit shall be valid until revoked or modified, as provided in this subchapter, except that a permit issued prior to construction of a new or altered source may contain a condition providing that the permit will expire unless construction is commenced within the time specified in the permit, which in no event may be less than 1 year after the permit is issued.

12. ARM 17.8.763 Revocation of Permit. An air quality permit may be revoked upon written request of the permittee, or for violations of any requirement of the Clean Air Act of Montana, rules adopted under the Clean Air Act of Montana, the FCAA, rules adopted under the FCAA, or any applicable requirement contained in the Montana State Implementation Plan (SIP).
  13. ARM 17.8.764 Administrative Amendment to Permit. An air quality permit may be amended for changes in any applicable rules and standards adopted by the Board of Environmental Review (Board) or changed conditions of operation at a source or stack that do not result in an increase of emissions as a result of those changed conditions. The owner or operator of a facility may not increase the facility's emissions beyond permit limits unless the increase meets the criteria in ARM 17.8.745 for a de minimis change not requiring a permit, or unless the owner or operator applies for and receives another permit in accordance with ARM 17.8.748, ARM 17.8.749, ARM 17.8.752, ARM 17.8.755, and ARM 17.8.756, and with all applicable requirements in ARM Title 17, Chapter 8, Subchapters 8, 9, and 10.
  14. ARM 17.8.765 Transfer of Permit. This rule states that an air quality permit may be transferred from one person to another if written notice of Intent to Transfer, including the names of the transferor and the transferee, is sent to the Department.
- F. ARM 17.8, Subchapter 8 – Prevention of Significant Deterioration of Air Quality, including, but not limited to:
1. ARM 17.8.801 Definitions. This rule is a list of applicable definitions used in this subchapter.
  2. ARM 17.8.818 Review of Major Stationary Sources and Major Modifications--Source Applicability and Exemptions. The requirements contained in ARM 17.8.819 through ARM 17.8.827 shall apply to any major stationary source and any major modification, with respect to each pollutant subject to regulation under the FCAA that it would emit, except as this subchapter would otherwise allow.
- This facility is not a major stationary source since this facility is not a listed source and the facility's potential to emit is below 250 tons per year of any pollutant (excluding fugitive emissions).
- G. ARM 17.8, Subchapter 12 – Operating Permit Program Applicability, including, but not limited to:
1. ARM 17.8.1201 Definitions. (23) Major Source under Section 7412 of the FCAA is defined as any source having:
    - a. PTE > 100 tons/year of any pollutant;
    - b. PTE > 10 tons/year of any one HAP, PTE > 25 tons/year of a combination of all HAPs, or lesser quantity as the Department may establish by rule; or
    - c. PTE > 70 tons/year of PM<sub>10</sub> in a serious PM<sub>10</sub> nonattainment area.
  2. ARM 17.8.1204 Air Quality Operating Permit Program. (1) Title V of the FCAA amendments of 1990 requires that all sources, as defined in ARM 17.8.1204(1), obtain a Title V Operating Permit. In reviewing and issuing Air Quality Permit #2814-02 for WBI, the following conclusions were made:
    - a. The facility's PTE is greater than 100 tons/year for NO<sub>x</sub>.

- b. The facility's PTE is less than 10 tons/year for any one HAP and less than 25 tons/year for all HAPs.
- c. This source is not located in a serious PM<sub>10</sub> nonattainment area.
- d. This facility is not subject to any current NSPS.
- e. This facility is not subject to any current NESHAP standards.
- f. This source is not a Title IV affected source, nor a solid waste combustion unit.
- g. This source is not an EPA designated Title V Source.

Based on these facts, the Department determined that WBI is a major source of emissions as defined under Title V. The final Title V Operating Permit #OP2814-00 was issued by the Department on August 23, 1998. In accordance with ARM 17.8.1205 and ARM 17.8.1227, WBI submitted an application for a significant modification/renewal to Title V Operating Permit #OP2814-00.

### III. BACT Determination

A BACT determination is required for each new or altered source. WBI shall install on the new or altered source the maximum air pollution control capability, which is technically practicable and economically feasible, except that BACT shall be utilized. A BACT analysis is not required for the current permit action, because the change is considered administrative.

### IV. Emission Inventory

Source	Description	Tons/Year				
		PM <sub>10</sub>	NO <sub>x</sub>	CO	VOC	SO <sub>x</sub>
1	Unit 1 Ajax DPC-600LE	0.23	37.67	8.08	6.95	0.01
2	Unit 2 Ajax DPC-600LE	0.23	37.67	8.08	6.95	0.01
3	Unit 3 Ajax DPC-600LE	0.23	37.67	8.08	6.95	0.01
4	Unit 4 Ajax DP-600LE C	0.23	37.67	8.08	6.95	0.01
5	Eclipse Plant Boiler	0.05	0.59	0.50	0.03	0.00
6	Miscellaneous Heaters	0.05	0.44	0.37	0.02	0.00
7	Fugitive Emissions	0.00	0.00	0.00	0.51	0.00
<b>Total</b>		<b>1.02</b>	<b>151.71</b>	<b>33.19</b>	<b>28.36</b>	<b>0.04</b>

\*A complete emission inventory for Permit #2814-02 is on file with the Department.

#### Source 1

##### Unit 1 – Ajax DPC-600LE

Engine bhp	600
Hours of operation	8760 hr/yr
Max fuel combustion rate	8775 MMBtu/hr
Fuel heating value	1000 Btu/scf

#### PM<sub>10</sub> Emissions

Emission factor: 10.0lb/MMscf

Calculations: 8775 MMBtu/hr \* 0.001 scf/Btu \* 600 bhp \* 8760 hr/yr = 46121400 scf/yr  
 46121400 scf/yr \* 10.0 lb/MMscf \* 0.0005 ton/lb = 0.23 ton/yr

#### NO<sub>x</sub> Emissions

Emission factor: 6.5 g/bhp-hr

Calculations: 6.5 g/bhp-hr \* 600 bhp \* 0.002205 lb/g = 8.60 lb/hr  
 8.60 lb/hr \* 8760 hr/yr \* 0.0005 ton/lb = 37.67 ton/year

#### CO Emissions

Emission factor: 1.84 g/bhp-hr

Calculations:  $1.84 \text{ g/bhp-hr} * 600 \text{ bhp} * 0.002205 \text{ lb/g} = 2.44 \text{ lb/hr}$   
 $2.44 \text{ lb/hr} * 8760 \text{ hr/yr} * 0.0005 \text{ ton/lb} = 8.08 \text{ ton/year}$

#### VOC Emissions

Emission factor: 1.2 g/bhp-hr

Calculations:  $1.2 \text{ g/bhp-hr} * 600 \text{ bhp} * 0.002205 \text{ lb/g} = 1.59 \text{ lb/hr}$   
 $1.59 \text{ lb/hr} * 8760 \text{ hr/yr} * 0.0005 \text{ ton/lb} = 6.95 \text{ ton/year}$

#### SO<sub>x</sub> Emissions

Emission factor: 0.002 g/bhp-hr

Calculations:  $0.002 \text{ g/bhp-hr} * 600 \text{ bhp} * 0.002205 \text{ lb/g} = 0.003 \text{ lb/hr}$   
 $0.003 \text{ lb/hr} * 8760 \text{ hr/yr} * 0.0005 \text{ ton/lb} = 0.01 \text{ ton/year}$

### Source 2

#### Unit 2 – Ajax DPC-600LE

Engine bhp	600
Hours of operation	8760 hr/yr
Max fuel combustion rate	8775 MMBtu/hr
Fuel heating value	1000 Btu/scf

#### PM<sub>10</sub> Emissions

Emission factor: 10.0lb/MMscf

Calculations:  $8775 \text{ MMBtu/hr} * 0.001 \text{ scf/Btu} * 600 \text{ bhp} * 8760 \text{ hr/yr} = 46121400 \text{ scf/yr}$   
 $46121400 \text{ scf/yr} * 10.0 \text{ lb/MMscf} * 0.0005 \text{ ton/lb} = 0.23 \text{ ton/yr}$

#### NO<sub>x</sub> Emissions

Emission factor: 6.5 g/bhp-hr

Calculations:  $6.5 \text{ g/bhp-hr} * 600 \text{ bhp} * 0.002205 \text{ lb/g} = 8.60 \text{ lb/hr}$   
 $8.60 \text{ lb/hr} * 8760 \text{ hr/yr} * 0.0005 \text{ ton/lb} = 37.67 \text{ ton/year}$

#### CO Emissions

Emission factor: 1.84 g/bhp-hr

Calculations:  $1.84 \text{ g/bhp-hr} * 600 \text{ bhp} * 0.002205 \text{ lb/g} = 2.44 \text{ lb/hr}$   
 $2.44 \text{ lb/hr} * 8760 \text{ hr/yr} * 0.0005 \text{ ton/lb} = 8.08 \text{ ton/year}$

#### VOC Emissions

Emission factor: 1.2 g/bhp-hr

Calculations:  $1.2 \text{ g/bhp-hr} * 600 \text{ bhp} * 0.002205 \text{ lb/g} = 1.59 \text{ lb/hr}$   
 $1.59 \text{ lb/hr} * 8760 \text{ hr/yr} * 0.0005 \text{ ton/lb} = 6.95 \text{ ton/year}$

#### SO<sub>x</sub> Emissions

Emission factor: 0.002 g/bhp-hr

Calculations:  $0.002 \text{ g/bhp-hr} * 600 \text{ bhp} * 0.002205 \text{ lb/g} = 0.003 \text{ lb/hr}$   
 $0.003 \text{ lb/hr} * 8760 \text{ hr/yr} * 0.0005 \text{ ton/lb} = 0.01 \text{ ton/year}$

### Source 3

#### Unit 3 – Ajax DPC-600LE

Engine bhp	600
Hours of operation	8760 hr/yr
Max fuel combustion rate	8775 MMBtu/hr
Fuel heating value	1000 Btu/scf

#### PM<sub>10</sub> Emissions

Emission factor: 10.0lb/MMscf

Calculations:  $8775 \text{ MMBtu/hr} * 0.001 \text{ scf/Btu} * 600 \text{ bhp} * 8760 \text{ hr/yr} = 46121400 \text{ scf/yr}$   
 $46121400 \text{ scf/yr} * 10.0 \text{ lb/MMscf} * 0.0005 \text{ ton/lb} = 0.23 \text{ ton/year}$

#### NO<sub>x</sub> Emissions

Emission factor: 6.5 g/bhp-hr

Calculations:  $6.5 \text{ g/bhp-hr} * 600 \text{ bhp} * 0.002205 \text{ lb/g} = 8.60 \text{ lb/hr}$   
 $8.60 \text{ lb/hr} * 8760 \text{ hr/yr} * 0.0005 \text{ ton/lb} = 37.67 \text{ ton/year}$

#### CO Emissions

Emission factor: 1.84 g/bhp-hr

Calculations:  $1.84 \text{ g/bhp-hr} * 600 \text{ bhp} * 0.002205 \text{ lb/g} = 2.44 \text{ lb/hr}$   
 $2.44 \text{ lb/hr} * 8760 \text{ hr/yr} * 0.0005 \text{ ton/lb} = 8.08 \text{ ton/year}$

#### VOC Emissions

Emission factor: 1.2 g/bhp-hr

Calculations:  $1.2 \text{ g/bhp-hr} * 600 \text{ bhp} * 0.002205 \text{ lb/g} = 1.59 \text{ lb/hr}$   
 $1.59 \text{ lb/hr} * 8760 \text{ hr/yr} * 0.0005 \text{ ton/lb} = 6.95 \text{ ton/year}$

#### SO<sub>x</sub> Emissions

Emission factor: 0.002 g/bhp-hr

Calculations:  $0.002 \text{ g/bhp-hr} * 600 \text{ bhp} * 0.002205 \text{ lb/g} = 0.003 \text{ lb/hr}$   
 $0.003 \text{ lb/hr} * 8760 \text{ hr/yr} * 0.0005 \text{ ton/lb} = 0.01 \text{ ton/year}$

#### Source 4

##### Unit 4 – Ajax DPC-600LE

Engine bhp	600
Hours of operation	8760 hr/yr
Max fuel combustion rate	8775 MMBtu/hr
Fuel heating value	1000 Btu/scf

#### PM<sub>10</sub> Emissions

Emission factor: 10.0lb/MMscf

Calculations:  $8775 \text{ MMBtu/hr} * 0.001 \text{ scf/Btu} * 600 \text{ bhp} * 8760 \text{ hr/yr} = 46121400 \text{ scf/yr}$   
 $46121400 \text{ scf/yr} * 10.0 \text{ lb/MMscf} * 0.0005 \text{ ton/lb} = 0.23 \text{ ton/year}$

#### NO<sub>x</sub> Emissions

Emission factor: 6.5 g/bhp-hr

Calculations:  $6.5 \text{ g/bhp-hr} * 600 \text{ bhp} * 0.002205 \text{ lb/g} = 8.60 \text{ lb/hr}$   
 $8.60 \text{ lb/hr} * 8760 \text{ hr/yr} * 0.0005 \text{ ton/lb} = 37.67 \text{ ton/year}$

#### CO Emissions

Emission factor: 1.84 g/bhp-hr

Calculations:  $1.84 \text{ g/bhp-hr} * 600 \text{ bhp} * 0.002205 \text{ lb/g} = 2.44 \text{ lb/hr}$   
 $2.44 \text{ lb/hr} * 8760 \text{ hr/yr} * 0.0005 \text{ ton/lb} = 8.08 \text{ ton/year}$

#### VOC Emissions

Emission factor: 1.2 g/bhp-hr

Calculations:  $1.2 \text{ g/bhp-hr} * 600 \text{ bhp} * 0.002205 \text{ lb/g} = 1.59 \text{ lb/hr}$   
 $1.59 \text{ lb/hr} * 8760 \text{ hr/yr} * 0.0005 \text{ ton/lb} = 6.95 \text{ ton/year}$

#### SO<sub>x</sub> Emissions

Emission factor: 0.002 g/bhp-hr

Calculations:  $0.002 \text{ g/bhp-hr} * 600 \text{ bhp} * 0.002205 \text{ lb/g} = 0.003 \text{ lb/hr}$   
 $0.003 \text{ lb/hr} * 8760 \text{ hr/yr} * 0.0005 \text{ ton/lb} = 0.01 \text{ ton/year}$

#### Source 5

##### Eclipse Plant Boilers

Boiler heat output	1.35 MMBtu/hr
Hours of operation	8760 hr/yr
Fuel heating value	1000 Btu/scf
Fuel consumption	$1.35 \text{ MMBtu/hr} * 0.001 \text{ MMscf/MMBtu} * 8760 \text{ hr/yr} = 11.826 \text{ MMscf/yr}$

#### PM<sub>10</sub> Emissions

Emission factor: 7.6 lb/MMscf (AP-42 Chapter 1, Table 1.4-2, 3/98)

Calculation:  $7.6 \text{ lb/MMscf} * 11.826 \text{ MMscf/yr} * 0.0005 \text{ ton/lb} = 0.045 \text{ ton/yr}$

#### NO<sub>x</sub> Emissions

Emission factor: 100 lb/MMscf (AP-42 Chapter 1, Table 1.4-1, 3/98)

Calculation:  $100 \text{ lb/MMscf} * 11.826 \text{ MMscf/yr} * 0.0005 \text{ ton/lb} = 0.591 \text{ ton/yr}$

#### CO Emissions

Emission factor: 84 lb/MMscf (AP-42 Chapter 1, Table 1.4-1, 3/98)

Calculation:  $84 \text{ lb/MMscf} * 11.826 \text{ MMscf/yr} * 0.0005 \text{ ton/lb} = 0.497 \text{ ton/yr}$

**VOC Emissions**

Emission factor: 5.5 lb/MMscf (AP-42 Chapter 1, Table 1.4-2, 3/98)

Calculation: 5.5 lb/MMscf \* 11.826 MMscf/yr \* 0.0005 ton/lb = 0.033 ton/yr

**SO<sub>x</sub> Emissions**

Emission factor: 0.6 lb/MMscf (AP-42 Chapter 1, Table 1.4-2, 3/98)

Calculation: 0.6 lb/MMscf \* 11.826 MMscf/yr \* 0.0005 ton/lb = 0.004 ton/yr

**Source 6****Miscellaneous Heaters**

Heat output	< 1 MMBtu/hr	AO Smith	30,000 Btu/hr
		Warm Morning	35,000 Btu/hr
		Armstrong	130,000 Btu/hr
Hours of operation:	8760 hr/yr		
Fuel consumption:	8.76 MMscf/yr	(Information from company)	

**PM<sub>10</sub> Emissions**

Emission factor: 12 lb/MMscf (AP-42 Chapter 1, Table 1.4-2, 3/98)

Calculation: 12 lb/MMscf \* 8.76 MMscf/yr \* 0.0005 ton/lb = 0.053 ton/yr

**NO<sub>x</sub> Emissions**

Emission factor: 100 lb/MMscf (AP-42 Chapter 1, Table 1.4-1, 3/98)

Calculation: 100 lb/MMscf \* 8.76 MMscf/yr \* 0.0005 ton/lb = 0.438 ton/yr

**CO Emissions**

Emission factor: 84 lb/MMscf (AP-42 Chapter 1, Table 1.4-1, 3/98)

Calculation: 84 lb/MMscf \* 8.76 MMscf/yr \* 0.0005 ton/lb = 0.368 ton/yr

**VOC Emissions**

Emission factor: 5.5 lb/MMscf (AP-42 Chapter 1, Table 1.4-2, 3/98)

Calculation: 5.5 lb/MMscf \* 8.76 MMscf/yr \* 0.0005 ton/lb = 0.024 ton/yr

**SO<sub>x</sub> Emissions**

Emission factor: 0.6 lb/MMscf (AP-42 Chapter 1, Table 1.4-2, 3/98)

Calculation: 0.6 lb/MMscf \* 8.76 MMscf/yr \* 0.0005 ton/lb = 0.003 ton/yr

**Source 7****Fugitive Emissions**

Components		TOC emission factors (AP-42)	TOC emissions
Compressor seals	8	1.9699 tpy/compressor seal	15.759
Relief valves	5	1.8154 tpy/relief valve	9.077
Valves	33	0.1931 tpy/valve	6.372
Flanges	110	0.0106 tpy/flange	1.166
Open-ended lines	6	0.2124 tpy/open-ended line	<u>1.274</u>
Total			33.649 ton/yr

**Natural gas composition**

Pollutant	Weight fraction	Ton/yr	Method of determination
TOC	1	33.649	AP-42 Emission factors
Methane	0.93	31.293	AP-42 Factors/WBI estimates
Ethane	0.055	1.851	AP-42 Factors/WBI estimates
Propane	0.008	0.269	AP-42 Factors/WBI estimates
Butane	0.001	0.034	AP-42 Factors/WBI estimates
Iso-Butane	0.0008	0.027	AP-42 Factors/WBI estimates
Pentane	0.0005	0.017	AP-42 Factors/WBI estimates
Iso-Pentane	0.00045	0.015	AP-42 Factors/WBI estimates
Hexane	0.003	0.101	AP-42 Factors/GRI specification factors
Benzene	0.00023	0.008	AP-42 Factors/GRI specification factors
Ethylbenzene	0.00002	0.001	AP-42 Factors/GRI specification factors
Toluene	0.00039	0.013	AP-42 Factors/GRI specification factors
Xylenes	0.0001	0.003	AP-42 Factors/GRI specification factors

VOC Emissions  
Calculations: 1.5% TOC Emissions = 0.505 ton/yr  
or  
TOC-Methane-Ethane = 0.505 ton/yr

## V. Existing Air Quality

## VI. Taking or Damaging Implication Analysis

## VII. Environmental Assessment

EA prepared by: Chris Ames

Final: 10/25/03